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BULLETIN OF BUSINESS RESEARCH

COLLEGE OF COMMERCE AND JOURNALISM
THE OHIO STATE UNIVERSITY

Volume I | APRIL 15, 1926 | No. 3

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EDITED BY THE STAFF OF THE BUREAU OF BUSINESS RESEARCH
PUBLISHED MONTHLY AT THE UNIVERSITY PRESS COLUMBUS OHIO

COLLEGE OF COMMERCE AND JOURNALISM
J. E. HAGERTY, Dean

BUREAU OF BUSINESS RESEARCH STAFF

Spurgeon Bell, Director

Howard C. Greer	Ralph J. Watkins
Willis Wissler	H. D. Comer
H. H. Shively	George W. Starr

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Entered as second class matter March 3, 1926, at the post office at Columbus, Ohio, under the Act of August 24, 1912.

Acceptance for mailing at the special rate of postage provided for in section 1103, Act of October 3, 1917, authorized March 3, 1926.

BULLETIN OF BUSINESS RESEARCH

Volume I APRIL 15, 1926 No. 3

OHIO BUSINESS AS SHOWN BY BUILDING CONTRACTS AND BANK DEBITS

With this issue the Bureau begins publication of its index of employment and earnings in the construction industry in Ohio. The compilation of this index is made possible by the generous cooperation of the Ohio State Association of Builders' Exchanges, the affiliated local exchanges, and the general contracting firms of the State. The Bureau selected the general contracting group of the industry because that group employs from 40 to 50 per cent of the workers in the industry and, further, activity in this group follows very closely activity in the whole industry.

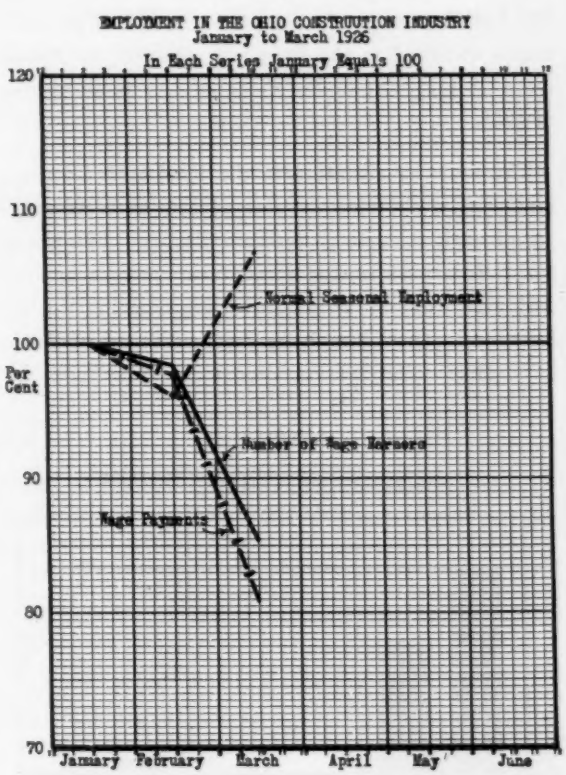
Up to date the number of firms agreeing to cooperate is 115, of whom 97 have actually sent in their reports. These firms employ approximately 17 per cent of the wage earners employed in the State by general contracting firms. The seasonal index is taken from the Bureau's study of seasonal employment in the industry, 1914-1924. The base for the present figures is January, 1926. Within a short time comparable data will be secured from the Ohio Division of Labor Statistics for the past several years. Then comparisons can be made with past years.

The index numbers charted are as follows:

Month	No. of Wage Earners	Wage Payments	Normal Seasonal Employment
January	100.0	100.0	100.0
February	98.5	97.8	95.7
March	85.3	80.9	111.3

Chart No. I showing the normal seasonal employment in Ohio in comparison with that for the past three months is shown below.

CHART I



There is also shown in the table No. 1 below the indices of employment in the contracting industry

TABLE No. 1

Employment in the Ohio Construction Industry

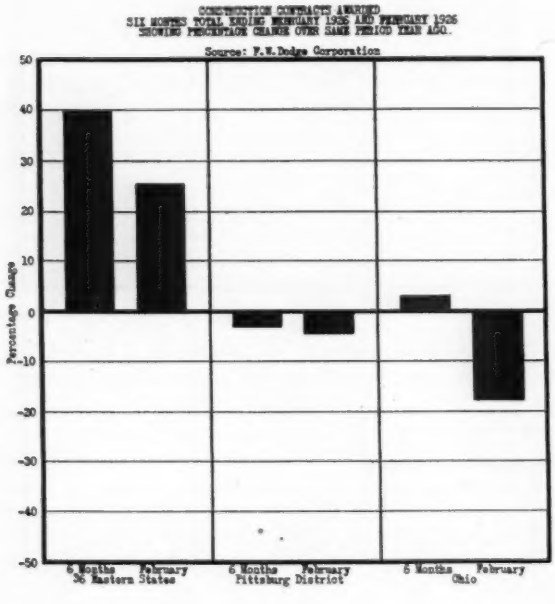
City	No. of Reporting Firms	MARCH		FEBRUARY		JANUARY	
		No. of Wage Earners	Total Wage Paymts.	No. of Wage Earners	Total Wage Paymts.	No. of Wage Earners	Total Wage Paymts.
Akron	16	100.0	100.0	88.1	99.4	57.0	65.0
Canton	9	100.0	100.0	131.5	138.3	128.8	132.1
Columbus	9	100.0	100.0	110.2	100.8	81.1	68.0
Cleveland	21	100.0	100.0	85.4	78.0	44.5	44.0
Dayton	5	100.0	100.0	89.3	86.2	167.6	88.5
Lorain	5	100.0	100.0	120.0	165.8	76.3	103.3
Toledo	7	100.0	100.0	104.1	119.7	130.0	138.0
Youngstown	7	100.0	100.0	156.1	150.6	273.4	209.5
All State	94	100.0	100.0	98.5	97.8	85.3	80.9

in so far as the Bureau has received data from the several cities. It is hoped that the Bureau will be able to make this table more comprehensive and reliable as the number of cooperating contractors increases.

The low employment in building trades in March was doubtless due to a considerable extent to the bad weather prevailing during the month. This factor also needs to be reckoned with in considering the building contracts for the month. The contracts awarded in the Pittsburg District in March were 18 per cent under those of the same month of 1925.

The building situation in the Pitsburgh District, however, is showing regular decline even as compared with that in 36 Eastern States. The chart No. II below shows the percentage increase in contracts awarded in 36 States for six months and for February. (For March figures see Trend of Business, etc.) The smaller increased percentage for

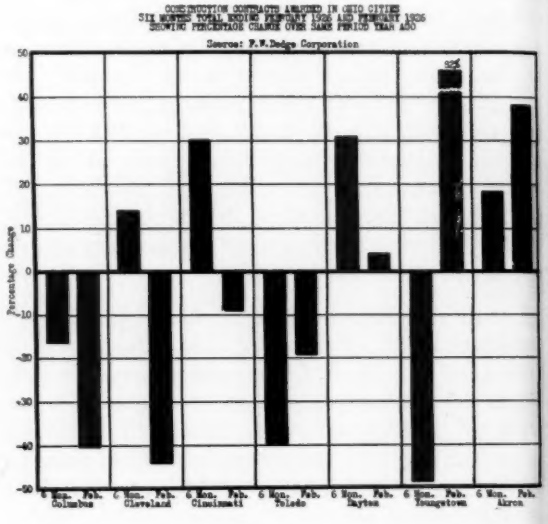
CHART II



February suggests a declining tendency in building contracts. Likewise in the Pittsburgh District the February decrease was larger than that for six months. In Ohio as a whole the February decrease was also large, while the contracts for six months are still slightly above those for the corresponding period a year ago.

Chart No. III shown below is intended to show the increase of building contracts in the chief cities in Ohio for February and for six months. In the

CHART III



case of particular cities the six months' increase or decrease is more important than that for February, since there is always considerable chance in the month to month variation of building contracts for a particular city. In the case of Cleveland, however, there have been decreases in contracts awarded each month since November. The February decrease is consequently significant of the trend. February, however, is the first month to show a decrease for Cincinnati. The decrease in building for Toledo has been systematic since November. The decreases in Youngstown have been systematic since September until February. The large increase for February has been followed by a still larger increase for March (see March figures in Trend of Business, etc.).

In order to further indicate the trend of business in Ohio cities the Bureau has compiled charts show-

ing the weekly trend of bank debits in the chief cities of the State which are submitted below. It is significant that those cities showing a large six months' decrease in buildings also show a more declining tendency in bank debits. Note for example the bank debits of Youngstown, Columbus and also of Cleveland. The fact that Toledo began the year 1925 with a very much larger increase over the 1919-1924 average than the other cities of the State makes the situation there somewhat peculiar. The behavior of debits in Toledo since March of 1925 has been quite similar to that in Cleveland, although at that time its debits were something like 40 per cent above the average of 1919-1924, while those in Cleveland were very near that average.

According to the bank debits data, and also according to the building increase data, Dayton stands out as one of the most prosperous cities of the State where there has been a more sustained activity and continued growth in industry and trade than elsewhere.

CHART IV

THE COURSE OF TRADE IN OHIO CITIES MEASURED BY WEEKLY BANK DEBITS SINCE JANUARY, 1925
FOR EACH CITY AVERAGE WEEKLY DEBITS 1919-1924 = 100

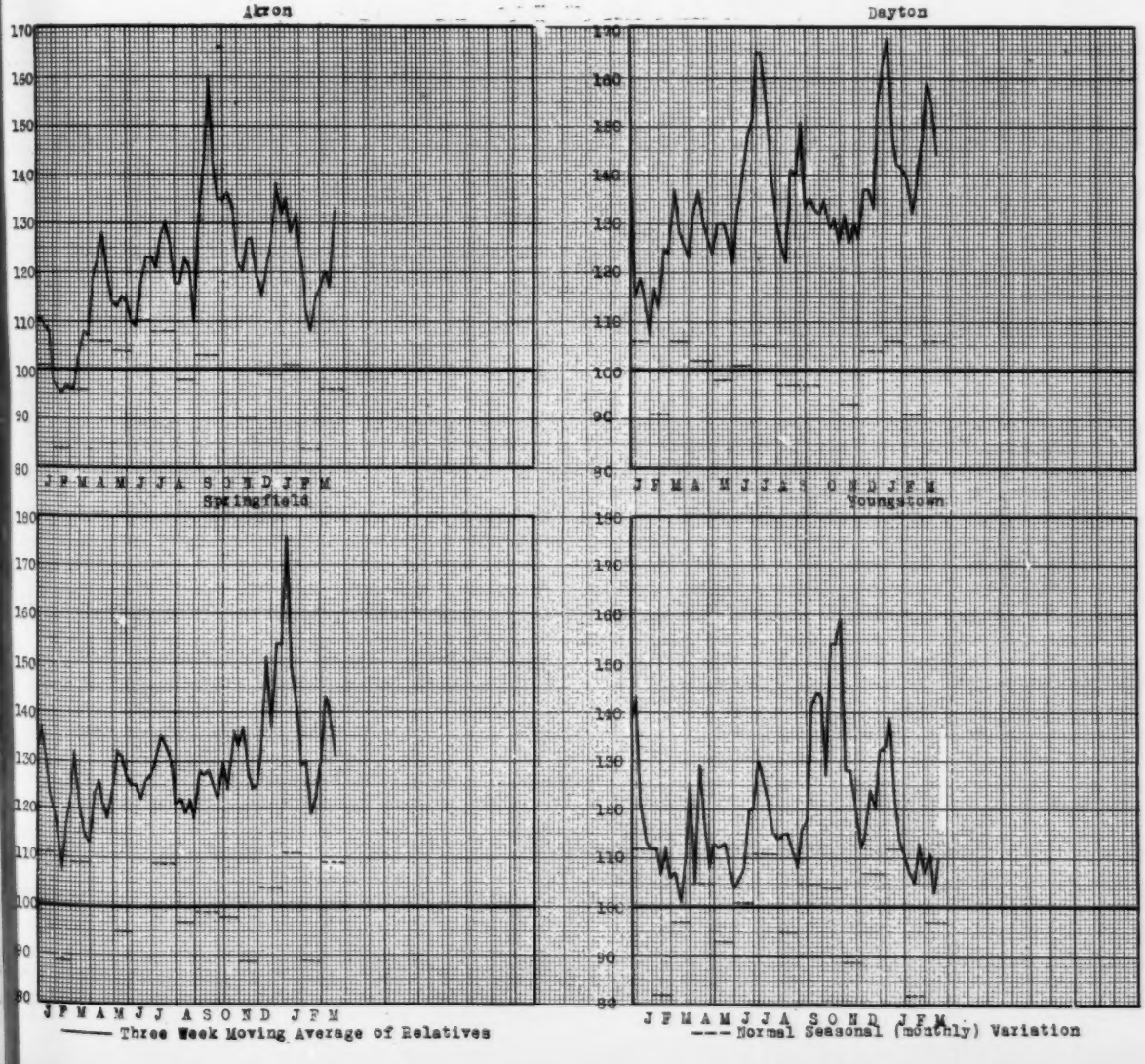
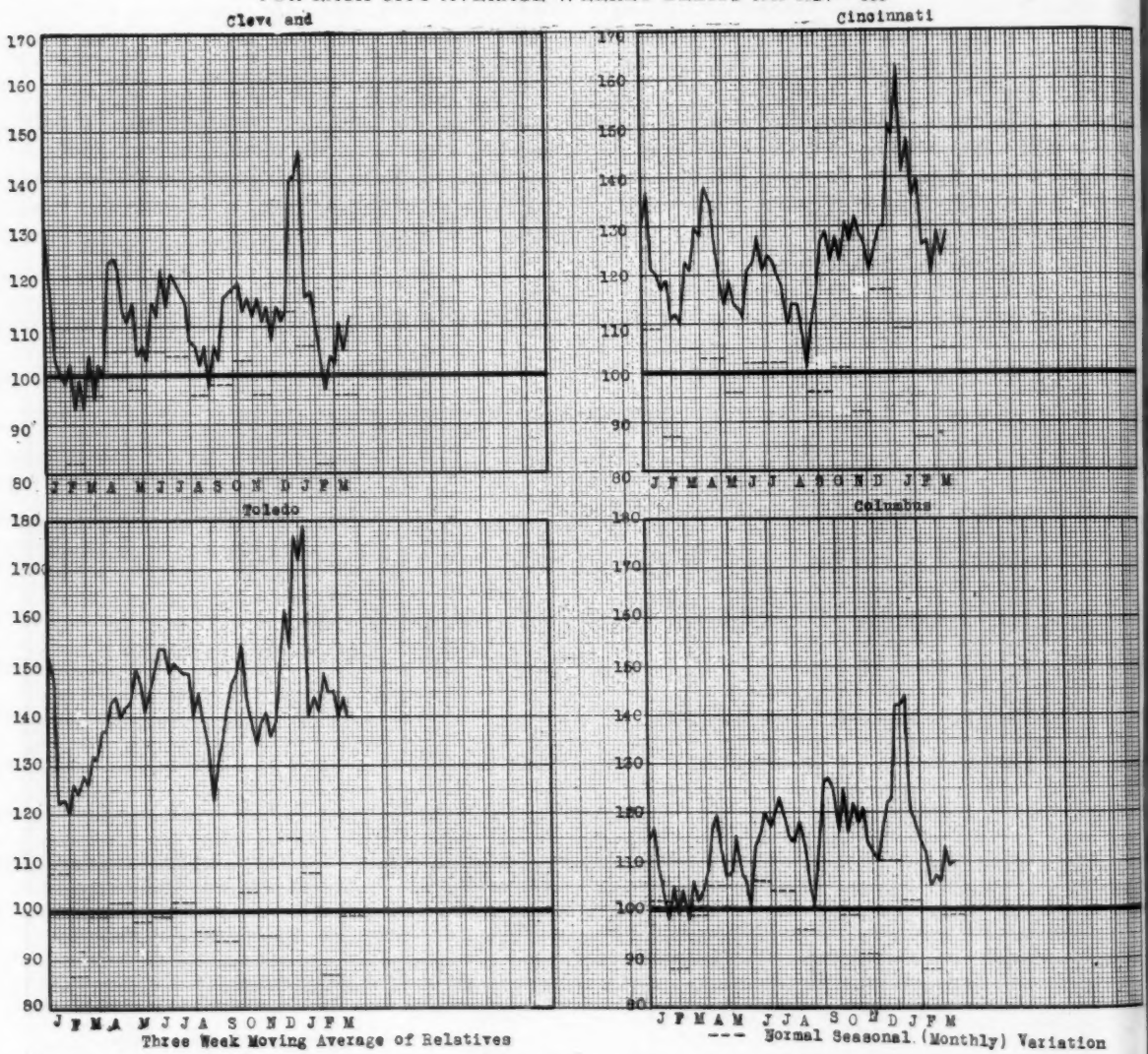

Akron
Dayton
Springfield
Youngstown
J F M A M J J A S O N D J F M
—— Three Week Moving Average of Relatives
--- Normal Seasonal (monthly) Variation

CHART V

THE COURSE OF TRADE IN OHIO CITIES MEASURED BY WEEKLY BANK DEBITS SINCE JANUARY, 1923
FOR EACH CITY AVERAGE WEEKLY DEBITS 1919-1924 = 100


Cleveland
Cincinnati
Toledo
Columbus
J F M A M J J A S O N D J F M
Three Week Moving Average of Relatives
Normal Seasonal (Monthly) Variation

SALES TRENDS IN WHOLESALE GROCERY FIELD

One of the questions most actively discussed in retail trade circles during recent years is the competition between independent dealers and chain stores. Nowhere has this competition been more active than in the grocery field. It is generally agreed that chain store sales have during recent years shown continual increases; it has been an open question as to whether or not there has been a corresponding decrease in sales through independent dealers. .

Some measure of the course of events in the retail grocery field may be obtained by an investigation of wholesale grocery sales. Since January, 1923 the Bureau of Business Research has received monthly reports on the volume of sales of a majority of the wholesale grocers of Ohio. Reports showing changes in wholesale prices of a representative list of wholesale grocery products have also been collected, and by comparison of prices and dollar sales there has now been developed a series of index number showing the physical volume of sales for the three years 1923-24-25. The trend is

illustrated in the accompanying chart, the base line 100 representing the three-year average.

There is, as will be noticed, a pronounced seasonal fluctuation in sales, the high point for the year being reached in the fall and the low point in the late winter. It will also be noted that during these three years physical volume has followed very closely the trend of sales in dollar values, indicating that in spite of temporary fluctuations the average of wholesale grocery prices in this State has remained about the same during the entire period. Prices were substantially above the average during the fall of 1924 and the spring of 1925, but fell almost an equal amount below the average during the latter months of 1925.

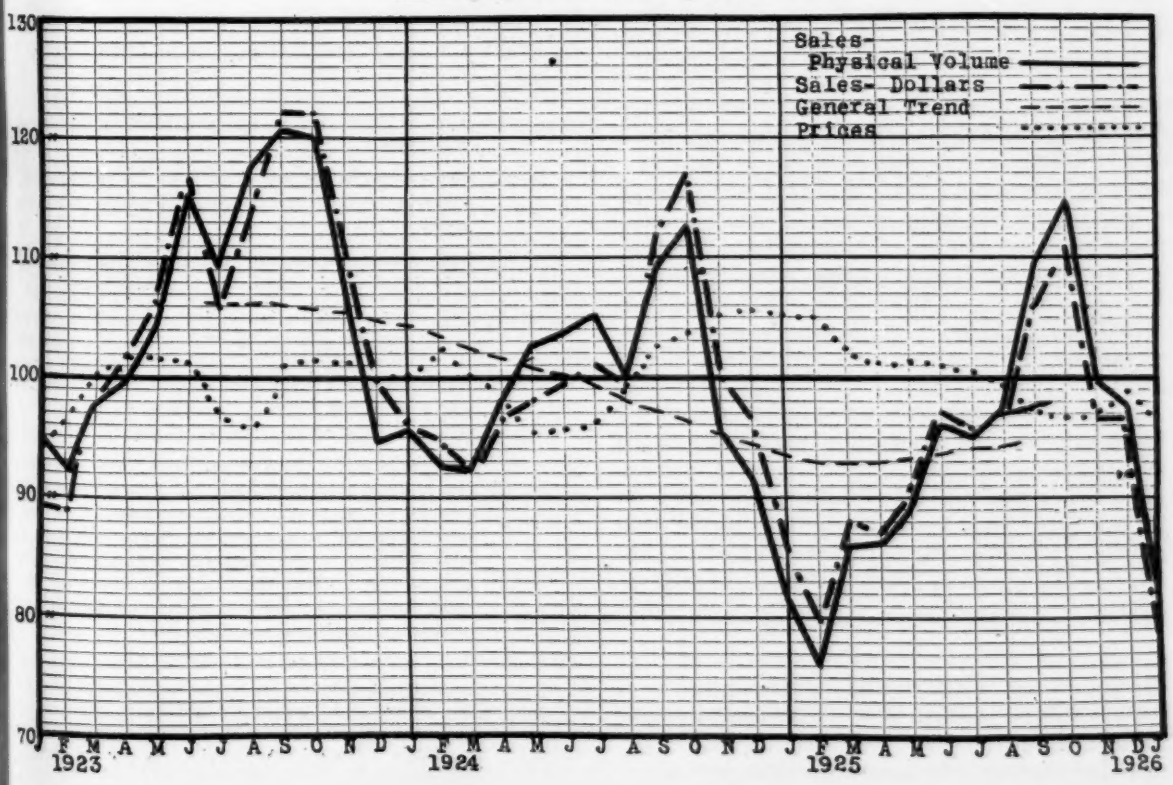
The irregularities in the sales curve make the general trend somewhat difficult to determine by inspection. A third line has therefore been drawn on the chart to represent this general trend. The points on this curve are the twelve months' average of sales in physical volume, beginning with the twelve months from January to December 1925, and ending with the twelve months from March 1925 to February 1926. This average is in every case shown on the chart at the midpoint of the twelve months in question.

The downward tendency of sales during 1923 and 1924 is marked. The decrease is steady and fairly regular, there being a reduction in average physical volume of about 13 per cent between the opening date and the twelve months ending August 1925. It is interesting to note, however, that the low point was reached at that time, and since then the average has been slowly but steadily climbing. The average for the twelve months ending with February 1926 is approximately 1½ per cent higher than the average for the lowest twelve months previously on record.

It is doubtless too early to draw any conclusions from the change in the general trend of wholesale grocery sales noted during the last five or six months. It may, however, be stated without much question that the decrease in wholesale grocery sales in Ohio has, for the present at least, been

CHART VI

TREND OF SALES AND PRICES IN OHIO WHOLESALE GROCERY FIELD
January 1923 to January 1926



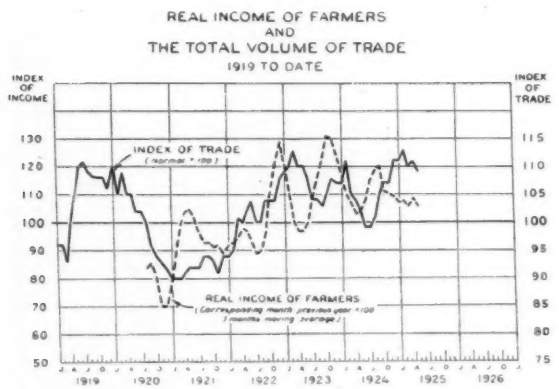
brought to a standstill. Whether this indicates a permanent change in the tendency in this field or whether the showing is a result of general prosperity and improved buying power during the latter part of 1925 can as yet hardly be conjectured.

THE INFLUENCE OF AGRICULTURE ON AMERICAN BUSINESS

In view of the present trend to lower prices and smaller receipts of livestock and farm products at the primary markets the computations of Mr. Louis H. Bean of the Bureau of Agricultural Economics, Department of Agriculture, is of particular interest. Mr. Bean has undertaken to construct a chart correlating the real income of farmers with the volume of trade.

While this study is not sufficiently extensive to be conclusive, it is so suggestive that we present it as an indication of the part which agriculture plays in the business cycle.

CHART VII



It will be noted that the quantitative relationship is not very good (a coefficient of correlation of .73, as reported by Mr. Bean), but there is an interesting time relationship since 1922. Apparently, the income curve leads the trade curve by about three months. However, the period is so short and the relationship so varied during the period that no definite conclusions can be drawn.

One great difficulty in such studies is the lack of current data indicating the purchasing power of the agricultural community. It is hoped that the Department of Agriculture will soon be able to disseminate current information on this subject.

MICHIGAN AUTOMOBILE STUDY

The Bureau of Business Research of the University of Michigan, under the directorship of Edmund E. Day, has recently published its first bulletin, a study of "The Life History of Automobiles," by C. E. Griffin, Professor of Marketing. The object of the study, in the words of the author, "is to determine the normal life history of automobiles, that is, the average life of automobiles, the rate at which cars of a given year's production are eliminated from use, and other facts dependent upon these." It will be seen at once that the subject is a vital one, because of its bearing on the subject of demand for automobiles. If we can determine accurately the mortality rate of automobiles, we are in a fair way of establishing the replacement demand, which demand will probably soon become the main reliance of automobile producers.

The study is based on a sample of about 45,000 registrations from the Michigan records of 1923 and 1924. These registrations indicate the year of manufacture, and, therefore, furnish a clue to the extent of eliminations of cars of different ages from year to year.

The interesting content of the study is revealed by the following conclusions, taken from pages 1 and 2:

(1) The average life of motor vehicles generally is 7.04 years.

(2) The average life of Ford cars is substantially longer than the average life of all other cars as a group.

(3) The average length of life of automobiles has shown a definite though not a steady increase.

(4) The rate at which automobiles of a given year's production are eliminated from use is indicated by the following facts: of any given 100,000 cars placed in use, 75 per cent will still be in use at the end of 4.75 years, 50 per cent at the end of 6.94 years, and 25 per cent at the end of 9.2 years.

(5) The replacement demand has shown a marked increase both absolutely and relative to the total demand. This tendency will continue. It is predicted that the replacement demand of 1926 will be 1,796,000 cars, of 1927 2,063,000 cars, and of 1928 2,341,000 cars. This increase in replacement demand means that the automobile market is approaching a stabilized condition.

(6) At a rate of production of 4,000,000 cars a year, and exports of 5 per cent of production (approximately the present rates), there would be in the United States in 1930 a total of 28,580,000 cars, or one car for every 4.3 persons of the estimated population for that year.

RATING FACTORY EMPLOYES

One of the principal topics discussed at the American Management Association in New York City March 3, 4, and 5 was the subject of rating employes.

Mr. Garvey, of the Dennison Manufacturing Company, from a wealth of experience, cited some of the outstanding difficulties of various testing and weighing methods. He pointed out the embarrassment of having the poorer man top the better man, and the disposition to readjust impersonally calculated findings by personal judgements in order to have the outcome conform with personal non-scientific opinion. He pointed out how such shortcomings may be overcome by means of grouping individual cards by comparable trades, rating on a basis of the trades or qualifications rather than from that of the individuals rated.

The unfortunate thing about rating, Mr. Garvey pointed out, was the difficulty of getting people to do the rating willingly. He felt that a great deal needed to be done to convince executives as to the advantages of such work as well as to its reliability. He pointed out that not only were the ratings made too infrequently and too perfunctorily but that they were not really made use of even after they had been made. In his years of experience he had known of only two workmen asking to see their ratings and in both these cases the men were aware that their ratings were very good. It was his conclusion, more or less confirmed by subsequent discussion, that scientific rating of employes not only remained in its experimental stage, but that very little headway had been made toward its commanding the confidence of practical business executives or of its becoming a vital and continuous part of personnel administration in industry.

Dr. Freyd, while in a measure accepting the practical experience of Mr. Garvey, was disposed to feel that a great deal of the failure of rating scores to achieve their expected usefulness could be traced to the unscientific fashion in which they were being compiled and administered. He cautioned against attempts to rate men on qualities not inherent to the job, against descriptive terms which vary their meaning with the persons using them, and against numerical or percentage measurements or other devices requiring more or less difficult mathematical calculation. Above all, comparison must be in comparable units of measurement.

He recommended the use of either a "linear scale" method or of the "graphic rating" method which combines with the "linear straight line" method descriptive terms for points registered on the scale. He believed that it would be more accurate and convenient to break up the group to be rated into lots of three, continuing to spread this classification out until the individual would be reached. Mr. Freyd emphasized the point that the best way to promote respect for and confidence in rating systems was to tie them up into active operation with promotional and wage increase systems.

Mr. Telford, in discussing the rating of office employes, emphasized the necessity for making a thorough analysis of clerical jobs in order to determine the qualifications essential to the successful performance of the desired task. He felt that a great deal of time could be profitably spent in "setting up the plan." In this connection he felt that it was extremely desirable to have the sympathetic cooperation and understanding of the foremen or other supervisors to whom will have to be entrusted the administration of the rating plan. He insisted that all requirements must be met as all are limiting factors. The oversight of a single limiting factor is, therefore, sufficient to negate the plan.

The returns from a survey made by Griffenhagen and Associates indicated a very discouraging experience as to the prevalence and success of rating plans. An investigation of the forms used, even where rating systems were attempted, disclosed them to be meager, uncritical, and unscientific. More progress seems to have been made by Public Utilities in this direction than by private corporations. In concluding Mr. Telford seemed to feel that more could be accomplished by giving greater consideration to the limitations of the immediate supervising executives in setting up the terms and routine for rating systems.

Mr. Dooley, of the Standard Oil personnel division, while not going into the technique of rating system to any great extent, made a valuable contribution by his emphasis on the advantages to be gained by ranking individuals with regard to eligibility for specific jobs in a promotional sequence. Such a procedure, by giving standing to employes in terms of the next job ahead, seems certain to give to rating schemes used in this connection a genuineness not otherwise to be accomplished. It provides ample opportunity for the challenge of

ratings while it eliminates much of the petty rivalry and the heart-burning resultant from blind and indiscriminate promotion.

Considering rating from the standpoint of rating manual workers, Mr. Winans described the "individual merit scheme" used by the Union Carbide Company. Under this scheme pay above a given base-rate is given according to standing in a number of qualities such as productivity, loyalty, attendance, quality, cooperation, and safety. These qualities are given various weights, the greatest weight being given to safety. Men are rated as exceptional, above average, average, below average, and poor. While the men do not understand the niceties of the calculation they do realize that if they are rated at 50 on all of these qualities they are only an average worker, that if they rate 75 they are above average, and that if they rate 100 they are exceptional.

Men not satisfied with their ratings have access to a committee of review consisting of three unbiased persons. The foreman is charged with the duty of keeping men advised as to their ratings. The obvious difficulty of this scheme, as implied by Mr. Cheny and others, is the difficulty of giving quantitative value to such intangible qualities as "loyalty" and "cooperation." Mr. Winans states that they of the Union Carbide Company believe that in practical experience something like quantitative treatment may be approximated.

TRAINING FOR RETAIL ADVERTISING

The Bureau has just completed a study on "Training for Retail Advertising." It is a summary of the opinions of retail advertising managers on the type of training which they would like their assistants to have. This bulletin shows in condensed form the views of twenty-two advertising managers in both small and large stores and in both small and large cities as to the subject that should be stressed and the qualities that should be developed, in order that a student on graduation might be well equipped to go into the advertising department of a retail store reasonably familiar with the performance of those duties which might be asked of him and reasonably sure that he was fitted to do the work that lay ahead of him.

This bulletin shows in readable arrangement the opinions of those men and women who are working in the retail advertising field and who, in their present positions, are responsible for and concerned with, the employment and dismissal of employes in retail advertising departments.

The opinions given in the bulletin have usually been expressed under the following heads:

1. General type of college training which would best prepare students for work in retail advertising departments;
2. Proper emphasis of advertising teaching from the standpoint of the retail advertiser;
3. The college years in which advertising training should best be given.

Of the twenty-two retail advertising managers quoted, six believe that the business and merchandising phases of retail advertising are of most importance for the young man studying advertising in college, and that his training should be conducted with this emphasis in mind. By far the majority, however, sixteen in all, feel that the emphasis of college teaching should be on what may properly be called the technique of advertising; that the problems which arise in matters of advertising policy and management are not of much immediate importance to the young man for several years after he gets out of school, and that he had best be taught the technique of the job, which means, as the various advertising managers look at it, the ability to express the selling features of merchandise in a pleasing and effective way, the capacity to make attractive layouts, to choose the style and sizes of types and cuts that will be suitable for his particular presentation and to check up on the proper insertion of an advertisement. Two advertising managers were in favor of an equal division of teaching emphasis.

According to the study, advertising copy appears to be an especially important subject from the retail advertising manager's viewpoint. Ten out of the twenty-two managers quoted mention this phase of training as an essential one; several speak of it as being more helpful to a worker in an advertising office than any of the other subjects included in the term "technique."

Art and design are mentioned also as subjects which bear directly on advertising and which should come somewhere in the training laid out for the student in this field.

It is significant that the majority point of view in regard to technique as expressed by retail advertising men is different from that expressed by agency executives who in the study of "The Content of Advertising Courses in Colleges of Commerce" favor teaching emphasis on the broader

phases of marketing and advertising in preference to the detailed study of the actual preparation of advertising material.

The last years of a student's training in college are, in general, thought to be the best years for giving the student those courses which will apply more directly to his work on leaving college, three suggest the last year; two the last two years.

A list of the specific studies mentioned and the number of times they were mentioned is given below as a further indication of the importance of the various subjects:

Copy	18	Bookkeepting	2
Layouts	11	Student Activities	1
Knowledge of Merchandising	10	Newspaper Advertising	2
Psychology of Advertising	9	History	2
General Principles of Advertising	8	Market Analysis	2
Advertising Costs, Appropriations, Budgets, Etc.	7	Typewriting	1
Printing	6	Business Administration	1
Retailing and Store Practice	6	Commercial Geography	1
Engraving	5	Modern Languages	1
Type	5	Color	1
Art and Design	5	Study of Current Advertising	1
English and Grammar	5	Media	1
Direct Mail	4	Advertising Campaign (Local and National)	1
Selling Policies	4	Advertising Display	1
		Knowledge of Paper	1
		Trade Marks	1
		General Education	1

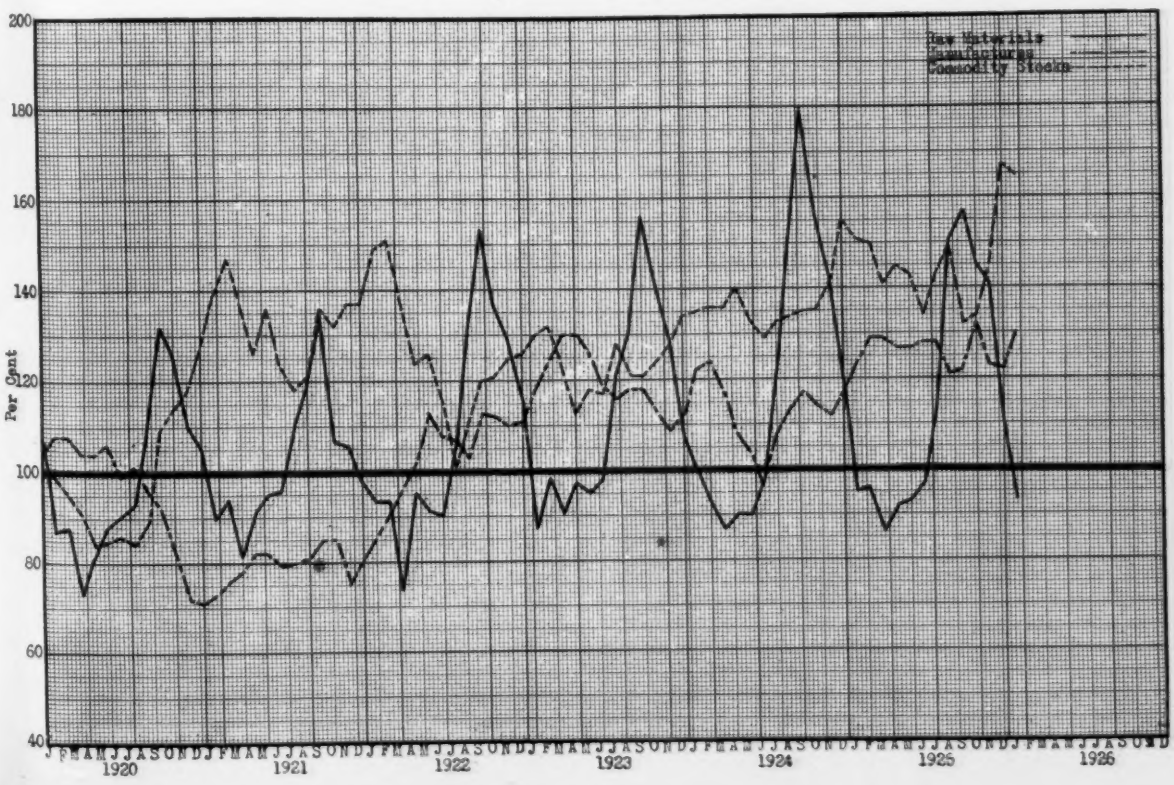
In general it does not appear to be true that retail advertising managers want only potential products which have within them the elements of managerial ability, but rather that they want men so trained that they can be of some actual use to the retail establishment while they are preparing themselves further for executive capacity.

A similar study was prepared in 1925 giving a summary of advertising agency opinion on the same subject.

TREND OF CURRENT BUSINESS AND A REVIEW OF THE FORECASTS

Production — There is presented below Chart No. VIII on Production in the United States. The question which is being asked on every hand is, will the drop in the production of raw materials shown below soon begin to show the recovery which was shown in the late spring and summer for 1924 and 1925? Stocks were high in January and a little lower in February. However, the tendency for stocks to increase was reflected in a tendency to lower prices. This has been marked

CHART VIII. PRODUCTION AND STOCKS



also in March. The Harvard Index on the volume of manufacture and mining showed a decline in February from 109 to 108 (the index being constructed on the basis of a normal trend). The facts show to date a moderate recession in production and prices. These facts are in accord with the building situation, which may of itself have something to do with the production facts in manufacturing lines.

In its Weekly Letter No. 10, March 6, the Harvard Service makes the following comment on the present outlook:

> "Significant evidence as to the nature of the present recession should be furnished by developments in the money market in the next few months. An easing of rates, like those which followed the spring recessions of each of the past three years, would indicate that the present recession will soon run its course and will be followed by stabilization and recovery. On the other hand, a stiffening of rates in the event of the continued recession of stock prices would forecast a more severe decline in business than took place in each of the last three years. The available evidence now indicates, however, that the money market will ease with declining stock prices, commodity prices, and manufacturing output, and that stabilization in commodity prices and expansion in manufacturing output will follow. Certain unsound or weak elements in the situation—notably the large volume of installment buying and the lengths to which speculation in stocks and real estate have been carried—must, indeed, be recognized. But we believe that the favorable elements in the situation—the conservatism with which manufacturing and merchandising operations are in general being conducted, and the strength of the banking and credit situation—will outweigh the unfavorable factors; and that the recession will therefore prove temporary."

In this quotation the Harvard Service takes a more optimistic view than that found in other services quoted under the stock-market paragraph below. The quotation seems to look forward to an expansion in manufactures this summer and fall similar to that shown in the summer and fall of 1924 and 1925.

Foreign and Domestic Prices—The Crum Index of English wholesale prices showed a continuous decline of wholesale prices throughout the first two months of 1926. Our domestic wholesale prices have shown a similar decline. This decline has affected practically all lines falling somewhat more heavily on agricultural prices.

The foreign trade figures continued to show an excess of imports in the United States for February.

Retail Trade—The index of average daily sales of dry goods in February for Ohio, as shown by the Bureau index, was 77.4 in comparison with 73.7 in February 1925. In the wholesale grocery field the Bureau index for February was 76.5 in comparison with 79.7 in February 1925. This situation in Ohio is characteristic of the situation over the country. Retail trade continues to show a small increase over last year, but somewhat smaller than those which have prevailed on an average during 1925. In wholesale lines there is a tendency toward slightly decreasing volume of sales in comparison with last year.

Building Contracts—The contracts awarded in thirty-seven Eastern States for March and the twelve months preceding are shown in Table No. II below:

TABLE II

Value of Contracts Awarded in 37 States East of the Rock Mountains for the Year Ending February 1926
(In Millions)

(Source: The F. W. Dodge Corporation)

Month	March 1925-February 1926, Valuation	Increase Per Cent Over Same Month of Previous Year
March	$480.9	11.0
April	547.0	13.9
May	496.0	18.3
June	540.6	39.5
July	529.0	52.4
August	589.7	66.4
September	548.2	59.2
October	519.5	26.6
November	464.7	22.4
December	510.9	55.8
1926		
January	443.4	50.0
February	389.9	25.4
March	597.9	22.0

This table shows a continued but rather small decline in the increases over the preceding year. But no serious slump in buildings has yet materialized for the country as a whole.

The decline of building contracts in the Pittsburgh District is more pronounced than in the country as a whole, the 18 per cent decrease for March comparing with 3.3 per cent decrease shown in February. The table for the Pittsburgh District follows:

TABLE III

Contracts Awarded by States in the Pittsburgh District

(000 Omitted)

(Scource: The F. W. Dodge Corporation)

States	February 1926	Increased Per Cent Over February 1925	January 1926	Increased Per Cent Over January 1925
Western Pennsylvania	$19,301	52	$ 8,810	—7
West Virginia	1,681	36	7,719	226
Ohio	21,971	—17	18,291	—22
Kentucky	3,235	—55	3,949	40
Total	$46,189.8	— 3.3	38,769	1

For March contracts awarded in the Pittsburgh District were $87,004,600 which was 18 per cent below the contracts for March 1925 and 88 per cent above the contracts for February 1926.

The table for contracts awarded in Ohio shows a smaller decrease than in either of the three preceding months since the contracts began to show a decrease in comparison with the preceding year. The table for Ohio follows:

TABLE IV

Contracts Awarded in Ohio for the Year Ending February 1926
(000 Omitted)

(Source: The F. W. Dodge Corporation)

Month	Year Ending February 28, 1926	Increased Per Cent Over Year Ending Feb. 28, 1925
March	$ 38,100	29
April	40,968	38
May	32,219	6
June	34,358	32
July	66,574	191
August	49,204	80
September	37,013	22
October	52,809	143
November	23,714	—38
December	26,231	—24
1926		
January	18,291	—22
February	21,971	—17
Total	$441,454	29

The decrease in contracts awarded in Ohio for March was 3 per cent.

The table for the cities of Ohio for February and six months is shown below in Table V.

For March these cities showed the following:

	Per Cent
Cincinnati	21 Decrease
Toledo	48 Increase
Cleveland	19 Decrease
Columbus	6 Increase
Dayton	25 Increase
Youngstown	246 Increase
Akron	6 Decrease

Iron and Steel—The demand for steel has continued strong during the month of March. The Iron Age on April 7th said: "Complete returns from the blast furnaces of the country bear out fully the showing of the estimates published last week. The output for March was 3,441,986 gross tons, or 111,032 tons per day, compared with 2,923,415 for February, or 104,408 tons per day. Of the total daily increase of 6,624 tons, steel company furnaces contributed 4,693 tons and merchant furnaces 1,931.

The country now has a total of 373 furnaces, and of these 236 were in blast April 1, making iron at the rate of 114,000 tons a day. On March 1, 226 were active at a 104,800-ton daily rate.

TABLE V

Contracts Awarded in Chief Cities of Ohio, September, 1925-February, 1926, Showing Increase Per Cents Over Same Period Year Ago

Month	Akron		Cincinnati		Cleveland		Columbus		Dayton		Toledo		Youngstown	
	Valuation	Increase Per Cent	Valuation	Increase Per Cent	Valuation	Increase Per Cent	Valuation	Increase Per Cent	Valuation	Increase Per Cent	Valuation	Increase Per Cent	Valuation	Increase Per Cent
September	$ 1,131	89	$ 2,716	—16	$16,938	176	$ 2,280	—10	$ 2,140	445	$ 799	—78	$ 1,008	50
October	621	56	3,108	33	8,335	38	3,335	187	714	—31	1,094	47	363	—47
November	330	—27	1,961	—12	5,554	— 2	1,878	—63	2,376	231	2,343	12	763	—63
December	908	—39	7,043	181	5,067	—18	1,282	—10	566	—53	656	—50	381	— 8
January	605	291	1,809	2	5,772	—24	1,406	— 1	882	40	579	—63	86	—96
February	456	39	2,031	—9	5,407	—44	1,153	—40	483	4	464	—19	718	82
Total	$ 4,050	+18	$18,668	40	$47,023	14	13,556	—15	7,160	31	5,935	—39	3,318	—47

The Iron Age composite price for pig iron dropped to $20.71 from $21.38 for the preceding four weeks. This is the lowest level since the last week of October.

Finished steel remains at 2.439 cents per pound, no change having been recorded in any of the seven component items making up The Iron Age composite price."

On April 1, The Iron Trade Review reported 62.4 per cent of the blast furnaces in operation and an increase of 6.1 per cent in the daily output of pig iron for March over the February daily average.

In the first week of April there was a break of $1.50 per ton on foundry iron and $1.00 per ton on other grades in Pittsburgh and the Valleys.

Foreign pig iron sold along the Atlantic seaboard at $1.00 to $2.00 per ton under the domestic product.

Automobile—Four of the important builders will curtail production for the next quarter, according to the Iron Trade Review of April 1. "On the other hand, manufacturers of several moderate priced cars oversold their output in March and therefore are striving for greater capacity."

In the Philadelphia District Federal Reserve Bulletin of April the following table on the sale of automobiles appears:

Automobile Trade Philadelphia Federal Reserve District (14 distributors)	February, 1926 Change from January, 1926	
	Number	Value
Sales, new cars, wholesale	19.9%	20.0%
Cars under $1,000	38.4%	40.8%
Cars $1,000 to $2,000	5.9%	15.3%
Cars over $2,000	0	1.3%
Sales, new cars at retail	11.2%	16.3%
Cars under $1,000	10.0%	5.2%
Cars $1,000 to $2,00	17.3%	14.9%
Cars over $2,000	27.3%	35.3%
Stocks of new cars	21.9%	15.0%
Cars under $1,000	21.8%	20.8%
Cars $1,000 to $2,000	30.7%	10.1%
Cars over $2,000	13.9%	11.9%
Sales of used cars	7.3%	— 1.3%
Stocks of used cars	3.2%	1.2%
Retail Sales, def. payment	19.6%	35.5%

The March production of automobiles and trucks was 447,000 in comparison with 377,252 in March, 1925.

Stock Market—The following table shows the movement of stocks during March according to the Standard Daily Trade Service figures:

	1926		Close Mar. 29	Net Decline in Mar.
	High	Low		
201 Industrial Stocks	156.4	135.6	135.6	10.4
31 Railroad Stocks	127.1	116.5	116.5	3.4

The future course of the stock market will be continuously affected by the course of industrial production and prices, the course of buildings, the sale of automobiles, and the foreign trade situation. If there is soon to appear a stiffening of domestic prices and at the same time an increase of industrial production as suggested in the Harvard Economic Service, there would also appear an upturn in the stock market.

The Daily Trade Service makes the following comment on the future course of security prices in its issue of April 1:

> "If he (the investor) buys for the cyclical upswings which occur in the stock market from time to time, or if he buys with the hope of winning large profits through long-term price appreciation, he will not only resolutely wait for lower prices, but he will resolutely wait for considerably lower prices. He will not be discouraged if he has to wait for a number of months, or even for a year or more. He is not buying income; he is buying bargains. He can therefore only patiently wait until the bargains arrive. We know of only a few instances in which speculative securities, bought in the early stages of a bear market, have returned large profits if held for a number of years. We know of a great number of cases—indeed, the preponderant majority of cases—in which speculative securities bought in the final stages of a major bear market, or in the early stages of a major bull market, have returned very handsome profits."

This is substantially in accord with the predictions of the Brookmire Economic Service as shown by the following quotation from the Analyst of March 29:

> "In view of the relatively disappointing showing of 1925 earnings of industrial corporations, as illustrated on the inside pages of this bulletin, and considering the less favorable outlook for the current year, stocks on the average are still in an inflated condition. Under these circumstances we continue to maintain the position that further liquidation wlil take place and that it is too early, as yet, to attempt to select stocks for purchase."

MANAGEMENT WEEK PROCEEDINGS

The proceedings of management week are now available in four section reports as follows: Office Management Section, Production Section, Marketing Section, and Accounting Section.

Paper bound copies of each section are available at 50 cents per copy. A limited cloth-bound edition containing the proceedings of the four sections will be available before the end of the month at $2.00 per copy.

The charge is made to cover the cost of printing and distribution in accordance with an understanding with members of various management week committees and officers of the Ohio Central Manufacturing Association.

PUBLICATIONS OF THE BUREAU OF BUSINESS RESEARCH

The publications of the Bureau of Business Research are of three types: (1) regular bulletins reporting results of studies conducted by the Bureau; (2) special bulletins presenting preliminary or informal reports of limited scope and of interest primarily to certain trade groups; (3) monthly bulletins dealing with current business conditions, both in general and in special fields.

Bulletins in the regular series will be available for general distribution at stated prices. Bulletins in the special series will also be generally available, but in limited quantities and subject to withdrawal on exhaustion of the supply. The list below contains the numbers, titles, and prices of the bulletins so far published:

REGULAR SERIES

No.	Title	Price
R-1	Sales Force Compensation and Expense of Ohio Wholesale Grocers—Year 1924	$ .50
R-2	A Uniform System of Accounts for Retail Furniture Dealers—Price to resident of Ohio, $1.00; regular price	5.00

SPECIAL SERIES

No.	Title
X-1	Survey of Ohio Retail Dry Goods Advertising—1924
X-2	Survey of Ohio Retail Clothing Advertising—1924
X-3	Operating Results of Ohio Wholesale Grocers—Year 1923
X-4	Operating Results of Ohio Wholesale Grocers — Year 1924
X-5	Content of Advertising Courses in Colleges of Commerce—Agency Suggestions
X-6	Sales, Outstandings, and Advertising of Ohio Retail Dry Goods Dealers—Year 1925

PROCEEDINGS OF MANAGEMENT WEEK

Title	
Office Management Section	$0.50
Production Section	.50
Marketing Section	.50
Accounting Section	.50
Proceedings of Management Week, Cloth (all sections)	2.00